AGPS-Dirt Pro
User manual

Advanced Geo Positioning Solutions, Inc.
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AGPS-Dirt Concepts Documentation

Purpose of Program: To provide Cut/Fill information anywhere on a job that is a general surface, such as a field, sub- division, or parking lot. Blade-Control, Machine- Guidance, and staking support.
* More than one surface can be loaded for the same job, (such as finished and sub-grade) and it takes only a couple seconds to switch to the other surface.
* Data may be automatically captured as you work to aid in periodic volume reports. This information can quickly be used to show remaining Cut and Fill sections of the job.
* If Staking, data is logged and a report is produced.
* If a Path is chosen, a Left/Right indicator is shown as well as station numbers along the Path.

Files Used:
Most of the files you work with are stored in the directory named "C:\AMW\DATA" . See the icons named "Data", "Datacmd" and "Load Data From Floppy" in the "C:\AMW" folder you see upon startup.

FBG File: Is used to describe the surface to be built. It can be as simple as just a list of points or as sophisticated as a set of triangles (a TIN). In the case of points list, the file uses the following columns: **"Name Northing(N) Easting(E) Elevation(Z) Description".** It can be easily built from a "DXF" file exported from some "CAD" program. See the file "SAMPLE.FBG" for a sample set of input points. If your jobname is "MITS1" you will need a FBG file named "MITS1.FBG" .

**** What do I ask for when requesting data?**

1. An AutoCAD™ 2000 compatible DXF is the preferred method; text points or DWG may be acceptable as well.
2. This file must have a proposed surface in 3D (Northing Easting Elevation)
3. The surface must be one of the following "Triangles", "Lines forming Triangles", or "Lines, Arcs, and Points".
4. Any other features included on the drawing (boundaries, existing features etc.) must have an elevation that does not disrupt the proposed surface OR must have an elevation of 0. (a user can enter the lowest elevation of points to load, so a greater number than 0 could be used if the user is aware.) Other features intended for a "background drawing" or "blueprint" view could be provided in a separate DXF (elevations not important)
5. Coordinate system must be known when setting up the program. This may be Local Points, State Plane, or UTM. Any of these could use a Stretch K factor if required.
6. Control points (benchmarks) in the same coordinate system are needed as well as information about where the points are physically on the ground.
7. The overall goal is replicating a setup as if a surveyor was grade checking.

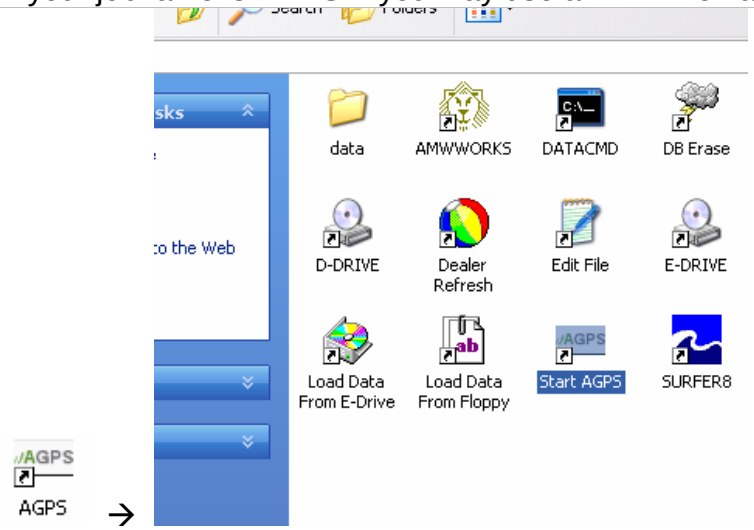
FB2 File: Is just the same as a "FBG" file, but is optional and is used to define a second surface for the job. If your jobname is "MITS1", you may provide a file named "MITS1.FB2". You can use up to 9 "FBG" files.

CTL File: Is used for "Control Points" used in setting up the "Location Instrument" (usually GPS or Total-Station). If your jobname is "MITS1" you will need a CTL file named "MITS1.CTL". The user must provide this file before work can begin. This file uses the following columns: **"Name Northing(N) Easting(E) Elevation(Z) Description".** One may be automatically built for you or can be copied from "AMODEL.CTL" or "SAMPLE.CTL". It is best to have one already on your hard-drive or USB drive before going out to a job. Points from this file will be displayed on your plot window as small triangles. It is good to have 3 or more control points defined in this file. *What is a Control Point?

Sometimes called a benchmark, this point is a known world feature in which coordinates are also known. Control points are important to make your coordinates match those used earlier.

SVY File: This file will contain all points and staking data captured when running the program. Also, "Location Instrument" setup information and other relevant information is logged to this file. This file will be created for you and will start out empty when you create a new job. If your jobname is "MITS1", you will have a file named "MITS1.SVY". See “SAMPLE.SVY". Points from this file will be displayed on your plot window as dots. These points can also be automatically marked to show Cut/Fill areas.

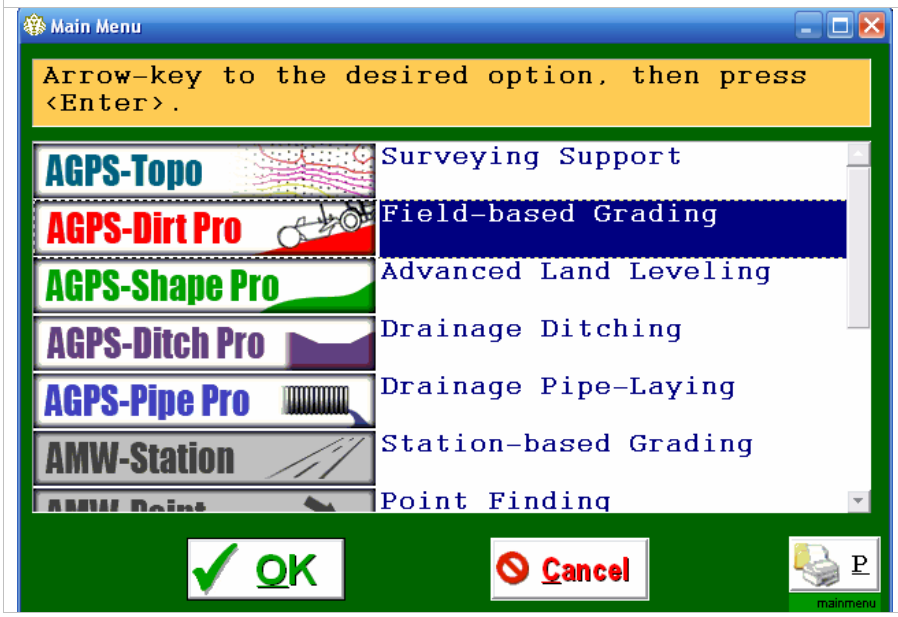
DRW File : This optional file defines a background-drawing that will be shown on the plot window along with other data. You can easily build this file from a "DXF" file that comes out of most "CAD" (computer-aided-drawing) programs. The DRW file creation process is described later in this manual. If your jobname is "MITS1" you may use a DRW file named "MITS1.DRW". See "SAMPLE.DRW".



Start the AGPS program.

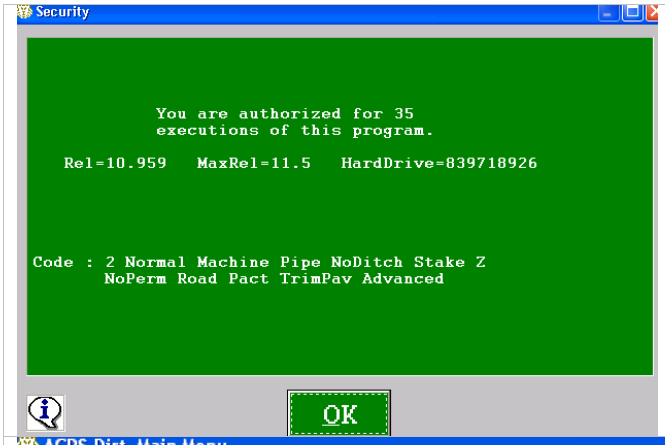
Click AGPS on the desktop. If one of the options below is on the desktop you can pick that directly.

Then select one of the following:
Start AGPS
Ditch Pro
amwworks
(Some computers may start the program when turned on)



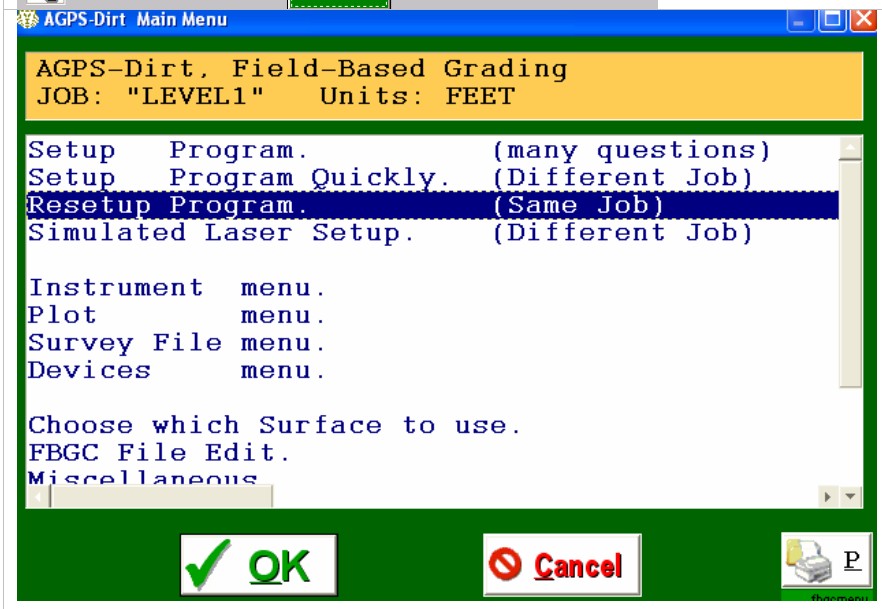
Select AGPS-Dirt Pro

If you do not see this screen, and you are taken to the working screen, your program is in automatic Resetup mode… Skip to the Working screen on Page 5.


Security
You are authorized for 35
executions of this program.
Rel=10.959 MaxRel=11.5 HardDrive=839718926
Code : 2 Normal Machine Pipe NoDitch Stake Z
NoPerm Road Pact TrimPav Advanced
OK

You are informed how many executions (uses) are remaining, the programs you have access to, and the Rel (release) number.

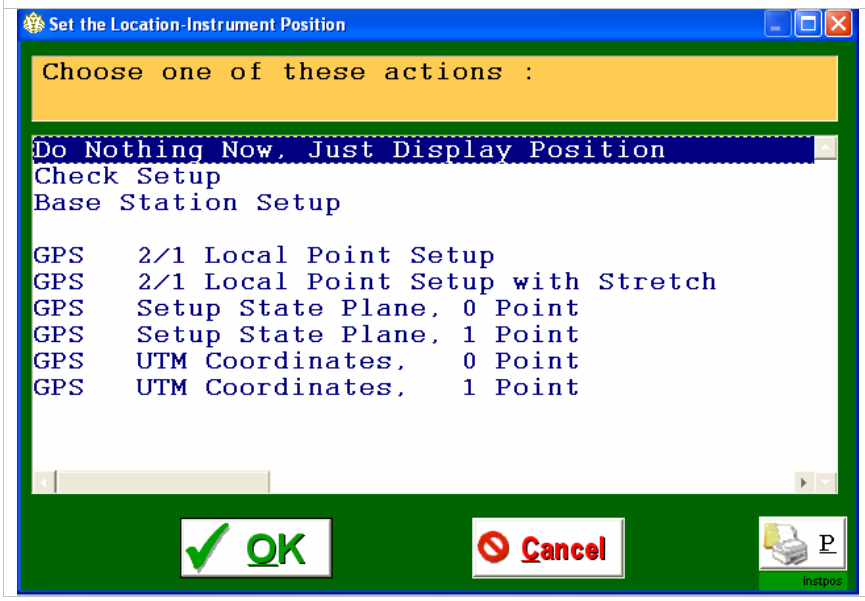
Press OK or the screen will go away after an amount of time.



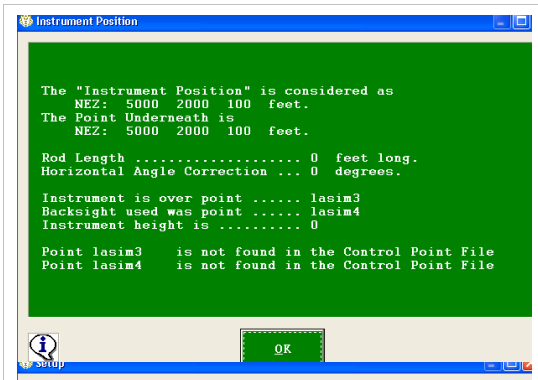
To work on the same job:
Select Resetup program (same job)
Note: This assumes that your base is in the same location, still configured the same, and you want to use the same control point. If not see:

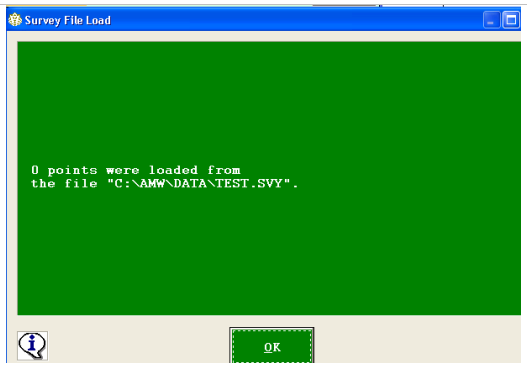
To work on a different job:
Select Setup Program Quickly (different job)
Go to Page 6

Simulated Laser Setup builds jobs with no file input:
See "Building Planes with no .fbg" page 11.



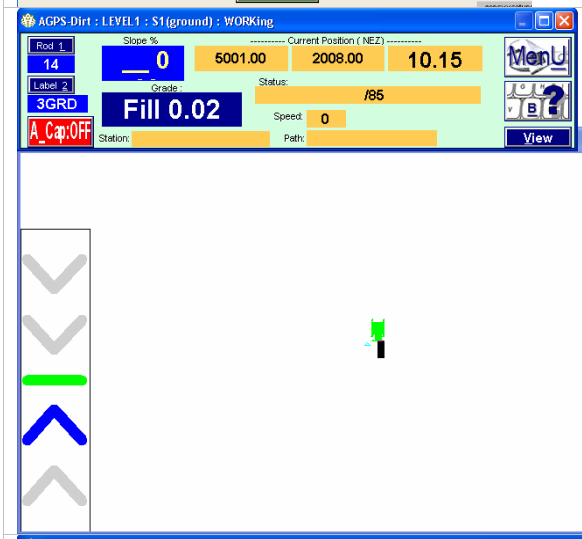
…Display Position…


Instrument Position
The "Instrument Position" is considered as
NEZ: 5000 2000 100 feet.
The Point Underneath is
NEZ: 5000 2000 100 feet.
Rod Length ..... 0 feet long.
Horizontal Angle Correction ... 0 degrees.
Instrument is over point lasim3
Backsight used was point lasim4
Instrument height is 0
Point lasim3 is not found in the Control Point File
Point lasim4 is not found in the Control Point File
OK



You are shown a few green misc. information screens. First, Instrument Position explains the control points used.
Then you are told how many points loaded from the .svy file.
Finally, Setup is Complete.

Press Enter (OK) to get by each.



-0.05

-0.025

no change

+0.025

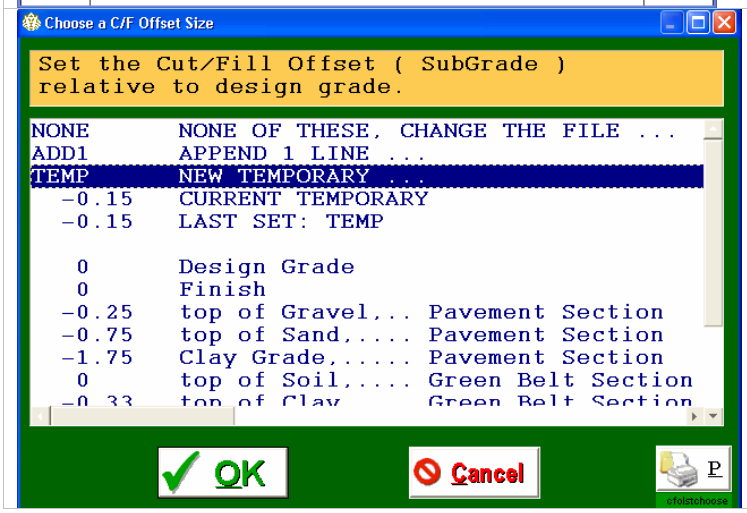
+0.5

Touching the bottom arrow will move 2x the middle arrow

The distance of offset can be adjusted: Go to MenU> Miscellaneous> 'Distance Blade moved by PgUp,PgDn'

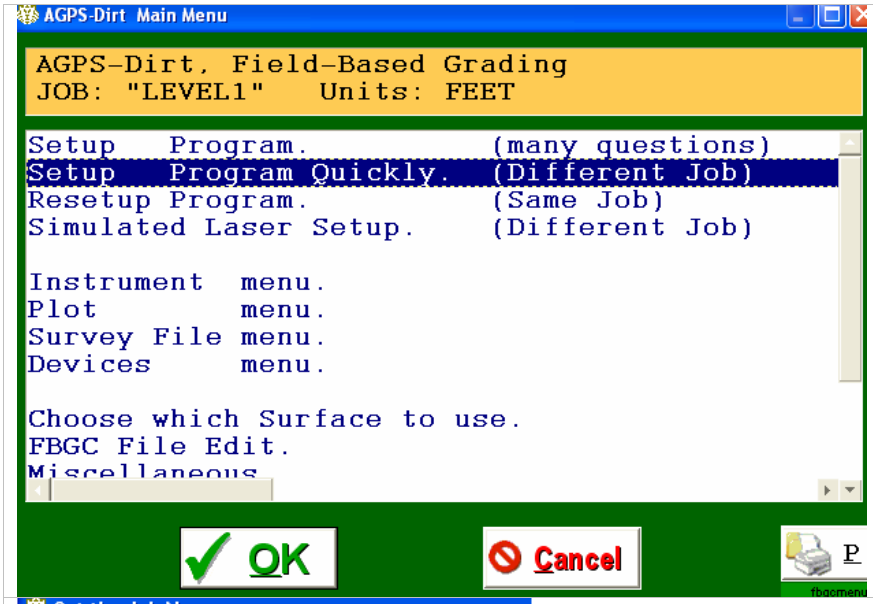
You are taken to the **working screen** and the program is ready.

Offsetting grade: Sometimes you may not want to cut/fill directly to design grade (example: large cut or subgrade).


Choose a C/F Offset Size
Set the Cut/Fill Offset (SubGrade)
relative to design grade.
NONE NONE OF THESE, CHANGE THE FILE ...
ADD1 APPEND 1 LINE ...
TEMP NEW TEMPORARY ...
-0.15 CURRENT TEMPORARY
-0.15 LAST SET: TEMP
0 Design Grade
0 Finish
-0.25 top of Gravel,.. Pavement Section
-0.75 top of Sand,.... Pavement Section
-1.75 Clay Grade,..... Pavement Section
0 top of Soil,..... Green Belt Section
OK
Cancel
P
cfolstchoose

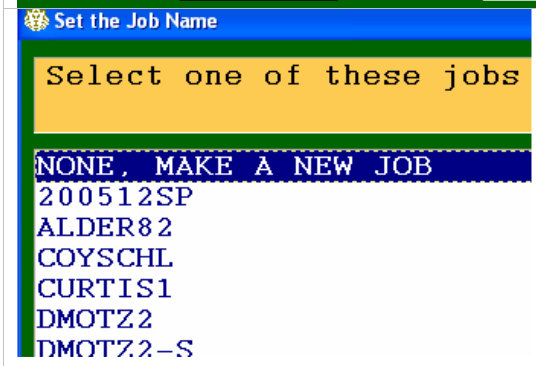
You can set an offset by touching the arrows on the keyboard or indicate screen.

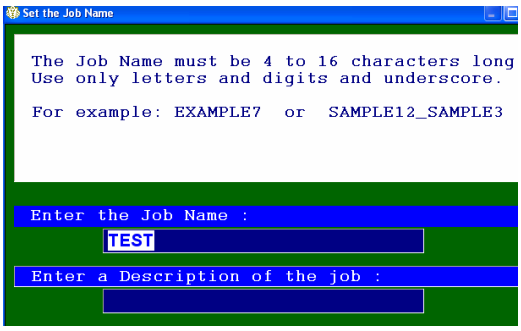
By pressing the F key (for cut/Fill) you can enter a temporary offset or select from a list. To customize this list select "NONE"



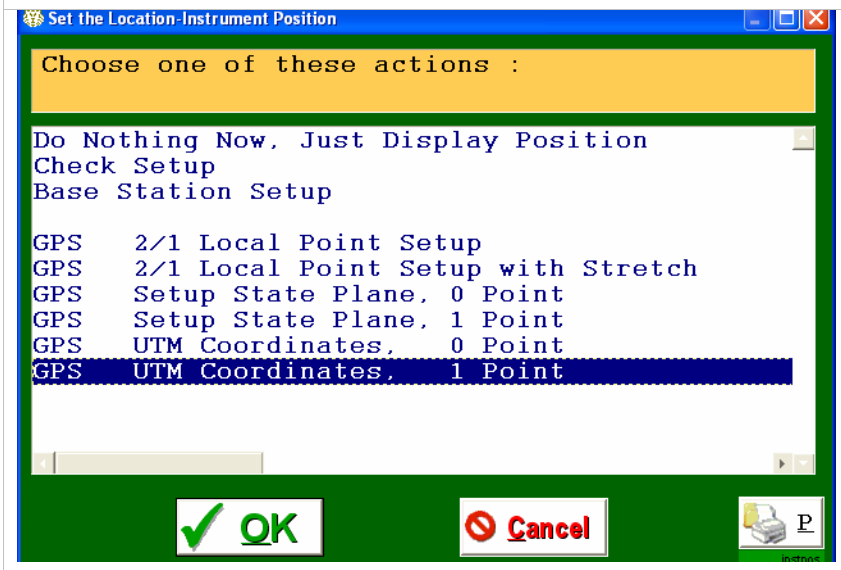
To work on a different job:
Press MenU and select Setup Program Quickly (different job)

Many questions:
Select Setup Program (many questions). This asks all questions about the program, from Instrument, to files. Typically only done once after install.




Set the Job Name
The Job Name must be 4 to 16 characters long
Use only letters and digits and underscore.
For example: EXAMPLE7 or SAMPLE12_SAMPLE3
Enter the Job Name :
TEST
Enter a Description of the job :

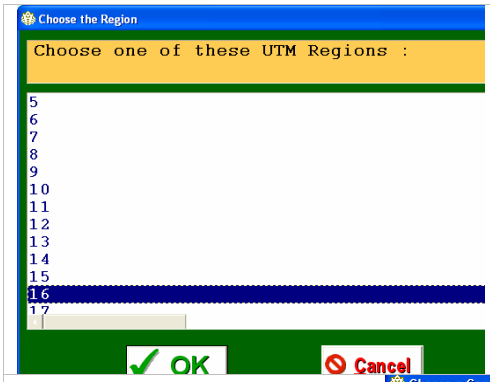
None, Make a new Job
Enter the job name
4-16 characters; letters, digits, & underscore "_"
In the second box, a description of any length may be entered.
**If you already have the jobname on the list select it.


Set the Location-Instrument Position
Choose one of these actions :
Do Nothing Now, Just Display Position
Check Setup
Base Station Setup
GPS 2/1 Local Point Setup
GPS 2/1 Local Point Setup with Stretch
GPS Setup State Plane, 0 Point
GPS Setup State Plane, 1 Point
GPS UTM Coordinates, 0 Point
GPS UTM Coordinates, 1 Point
OK
Cancel
P

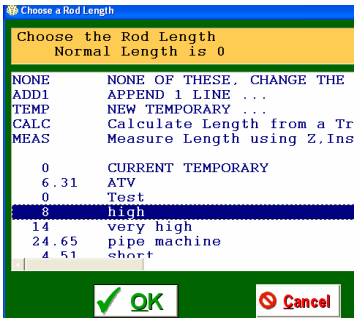
Select the coordinate setup based on the zone that your Control Points are in (the 1 Point option).

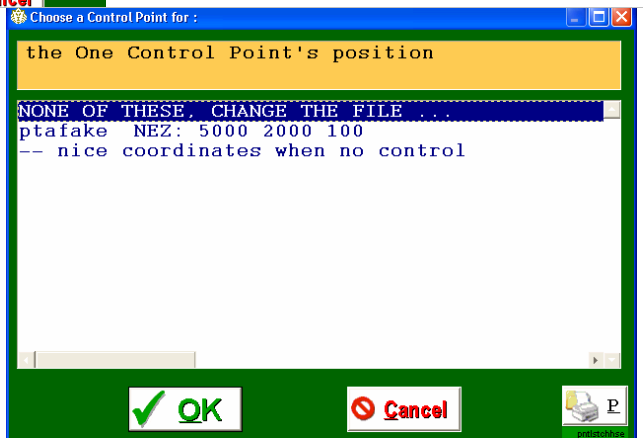
*If no Control Points are present, select UTM or State Plane with 0 Point

*If your coordinates are 5000,2000 (or any) "fake" use 2/1 Local Point



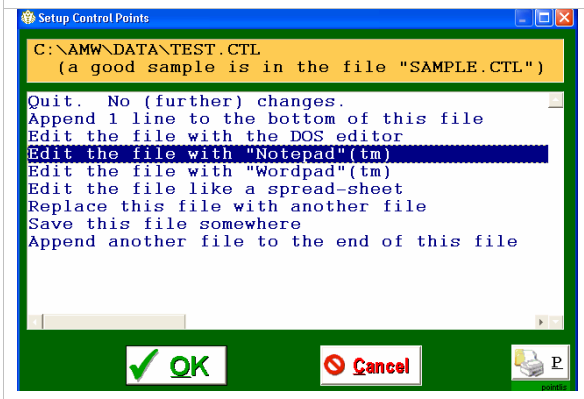
Your region will default to the last used, press OK or select a different.

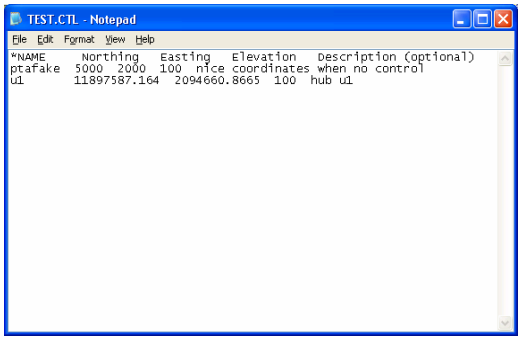



Choose a Control Point for :
the One Control Point's position
NONE OF THESE, CHANGE THE FILE ...
ptafake NEZ: 5000 2000 100
-- nice coordinates when no control
OK
Cancel

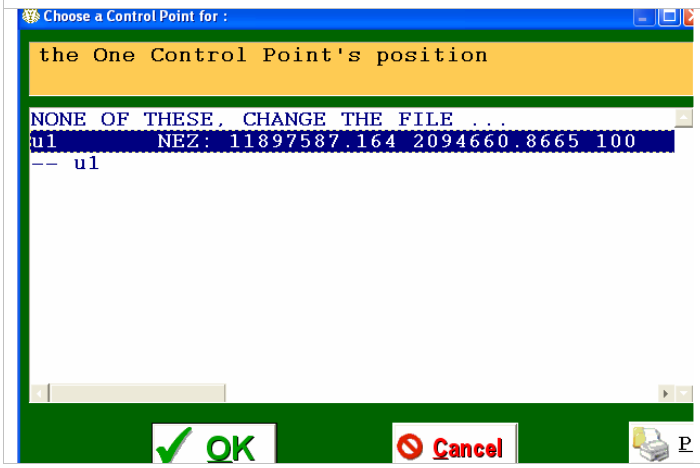
Select the rod length you will use to read the Control Point.
If you used 0 Point above skip to page 9.

Select the Control Point to be used. If this is not on the list (example:new job) select “None of these change the file.”

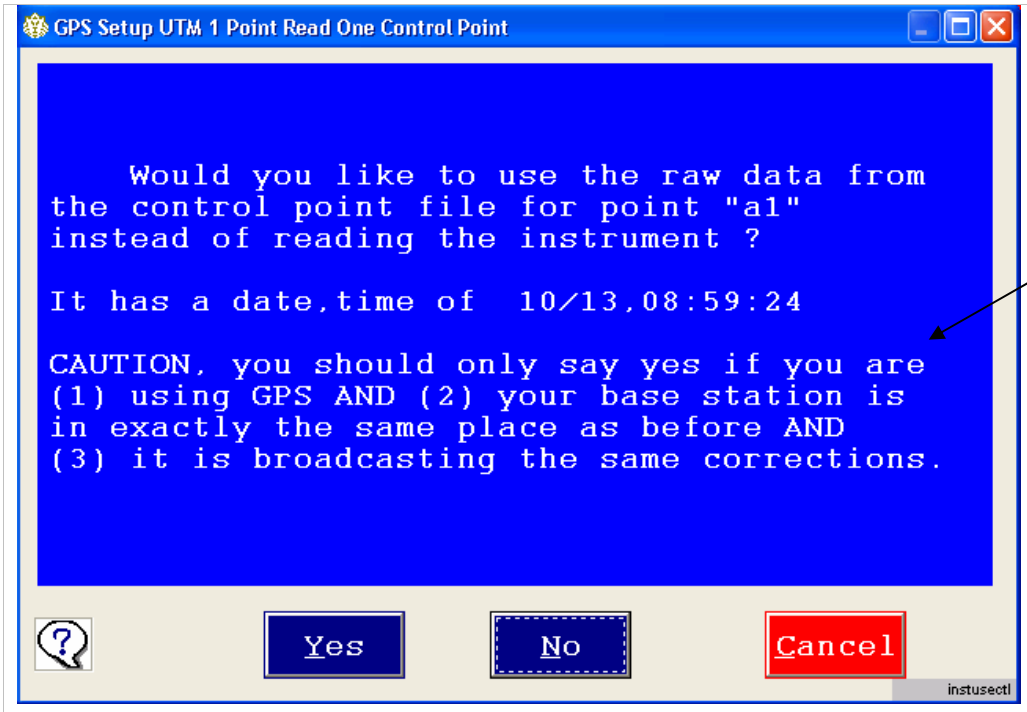

Setup Control Points
C:\AMW\DATA\TEST.CTL
(a good sample is in the file "SAMPLE.CTL")
Quit. No (further) changes.
Append 1 line to the bottom of this file
Edit the file with the DOS editor
Edit the file with "Notepad"(tm)
Edit the file with "Wordpad"(tm)
Edit the file like a spread-sheet
Replace this file with another file
Save this file somewhere
Append another file to the end of this file
OK
Cancel


TEST.CTL - Notepad
File Edit Format View Help
*NAME Northing Easting Elevation Description (optional)
ptafake 5000 2000 100 nice coordinates when no control
u1 11897587.164 2094660.8665 100 hub u1

“Edit the file with Notepad™” if you want to type in point information. Exit and save when done.
Or if you have a text file (or ctl file in another jobnname) with ‘Name N E Z Desc.’ Select “Replace this file with another file”



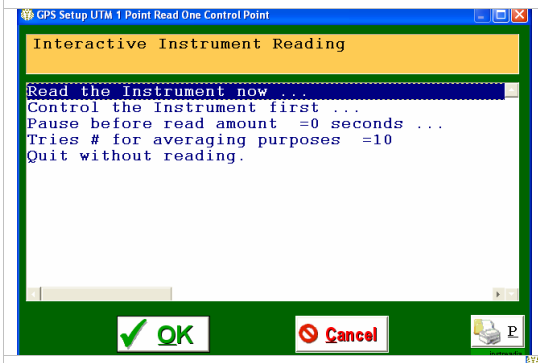
Select the Control point you are going to use; you must know where to find and be able to occupy this point’s ‘real world’ location.

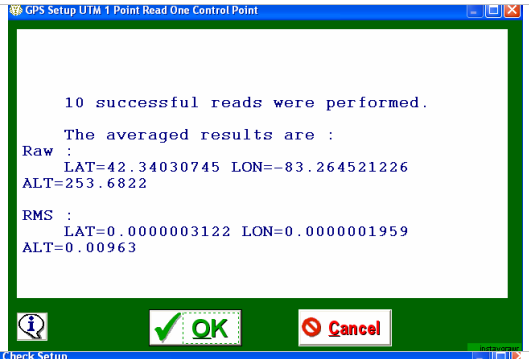

GPS Setup UTM 1 Point Read One Control Point
Would you like to use the raw data from the control point file for point "a1" instead of reading the instrument ?
It has a date,time of 10/13,08:59:24
CAUTION, you should only say yes if you are (1) using GPS AND (2) your base station is in exactly the same place as before AND (3) it is broadcasting the same corrections.
Yes
No
Cancel
instusectl

You may receive a question about raw data if you have used the point before:

Read description on screen for when to say yes or no. Select No if you are going to read the point.

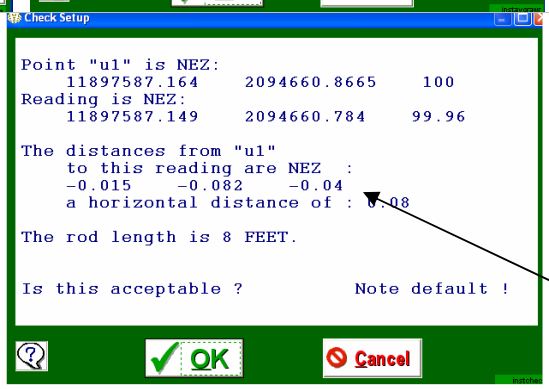
If you do not see this screen, go to the next step.
If you meet the qualifications to say Yes, skip the next step.


GPS Setup UTM 1 Point Read One Control Point
Interactive Instrument Reading
Read the Instrument now ...
Control the Instrument first ...
Pause before read amount =0 seconds ...
Tries # for averaging purposes =10
Quit without reading.
OK
Cancel



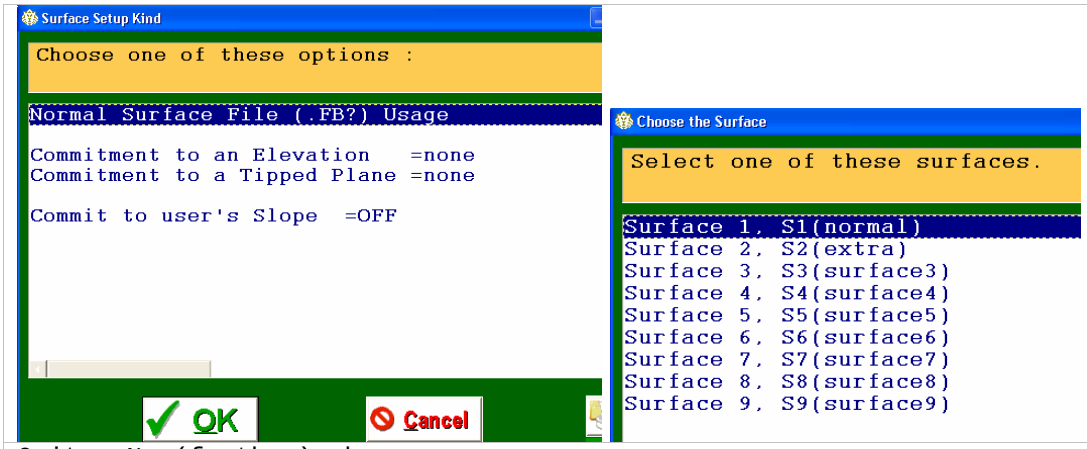
Select Read the Instrument now…

If no instrument errors occur, you will get a notice of the successful reads.


Check Setup
Point "u1" is NEZ:
11897587.164 2094660.8665 100
Reading is NEZ:
11897587.149 2094660.784 99.96
The distances from "u1" to this reading are NEZ :
-0.015 -0.082 -0.04
a horizontal distance of : 0.08
The rod length is 8 FEET.
Is this acceptable ? Note default !
OK
Cancel

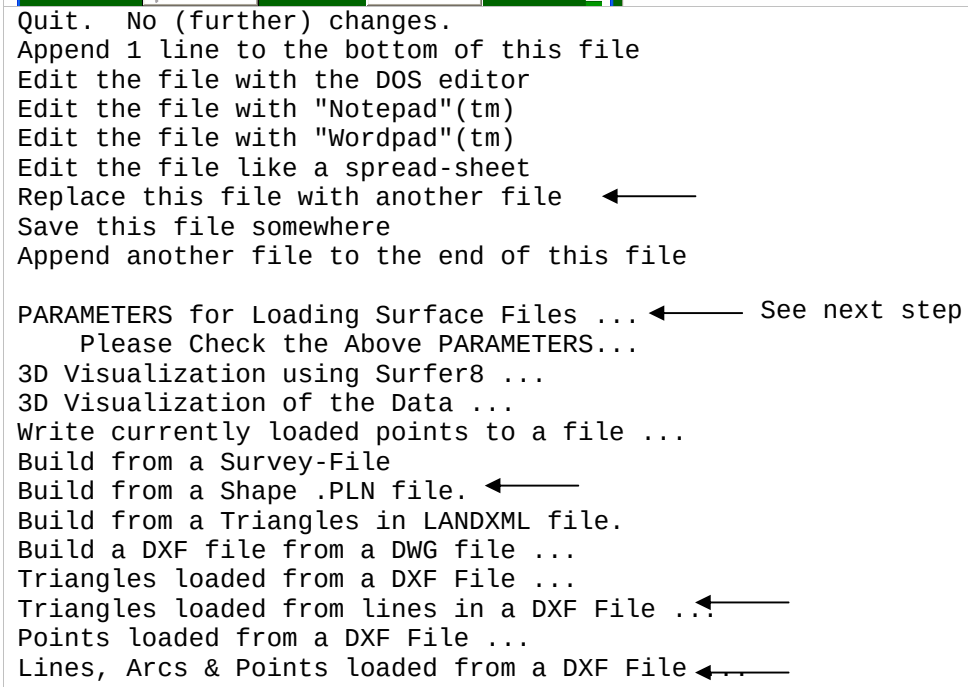
You will be asked to **Check a Control Point** to ensure a proper setup. Follow the same "Read Control Point" process above.

The distance values tell you the difference in the reads (these should be less than 0.1 typically)
If the results are acceptable press OK



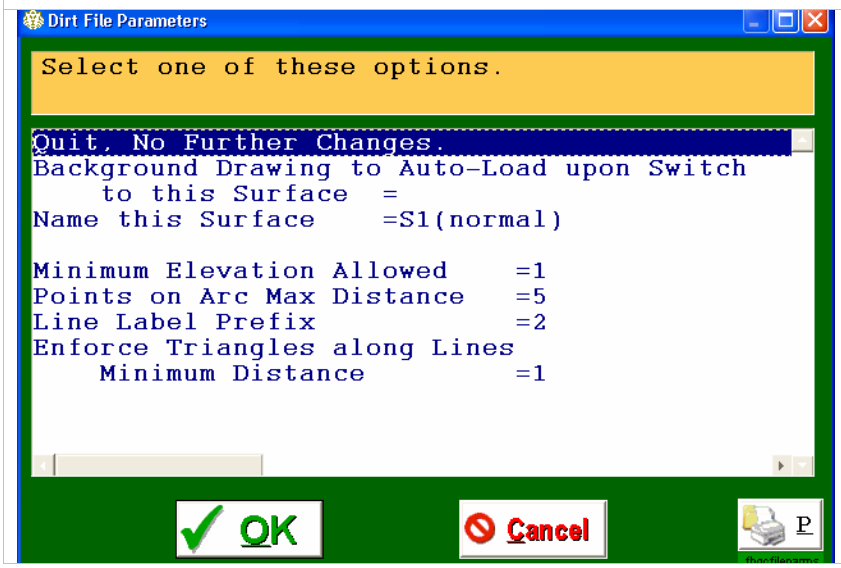
You will be asked what type of Surface to use.
To load a file use "Normal Surface File (.FB?) Usage"
For committing to planes (see page 12), you do not need an .fbg.

Select the surface to create (typically S1 "normal")


Quit. No (further) changes.
Append 1 line to the bottom of this file
Edit the file with the DOS editor
Edit the file with "Notepad"(tm)
Edit the file with "Wordpad"(tm)
Edit the file like a spread-sheet
Replace this file with another file
Save this file somewhere
Append another file to the end of this file
PARAMETERS for Loading Surface Files ...
See next step
Please Check the Above PARAMETERS...
3D Visualization using Surfer8 ...
3D Visualization of the Data ...
Write currently loaded points to a file ...
Build from a Survey-File
Build from a Shape .PLN file.
Build from a Triangles in LANDXML file.
Build a DXF file from a DWG file ...
Triangles loaded from a DXF File ...
Triangles loaded from lines in a DXF File ...
Points loaded from a DXF File ...
Lines, Arcs & Points loaded from a DXF File ...

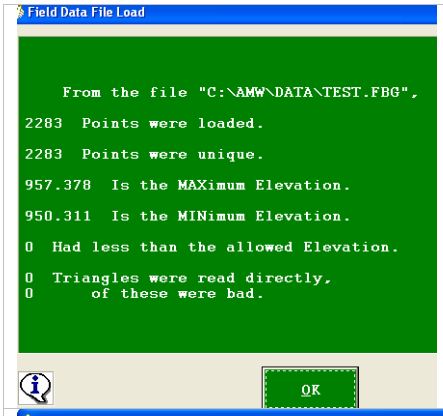
Next you receive a scrollable menu asking how to make the .fbg file.
All options are listed to the left.

"Replace this file with another" if you have a file with: pt# N E Z
"Build from a Shape .PLN file" if you have designed a surface with AGPS-Shape Pro.
"Triangles loaded from…" if you have a DXF "tin"
"Lines Arcs & Points from DXF" for normal 3D DXFs.

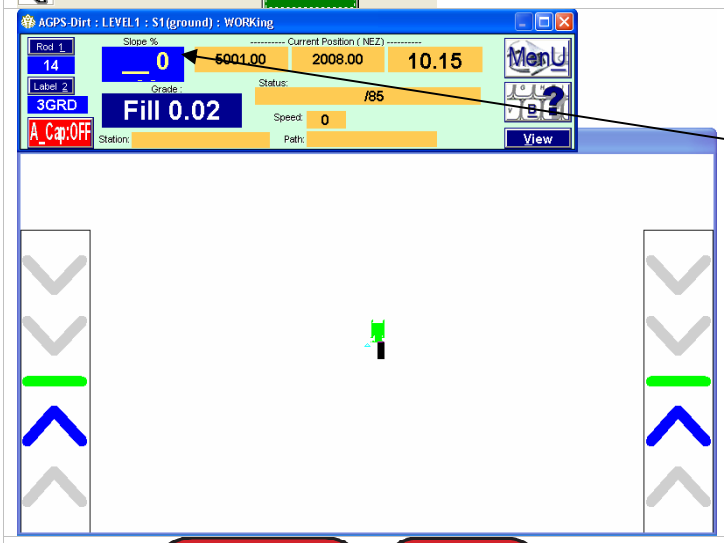


If you selected "PARAMETERS for Loading Surface Files" you are given options to further customize the loading. Selecting an option gives further desription.

Typically these do not need change, so if you did not select this option go to next step.

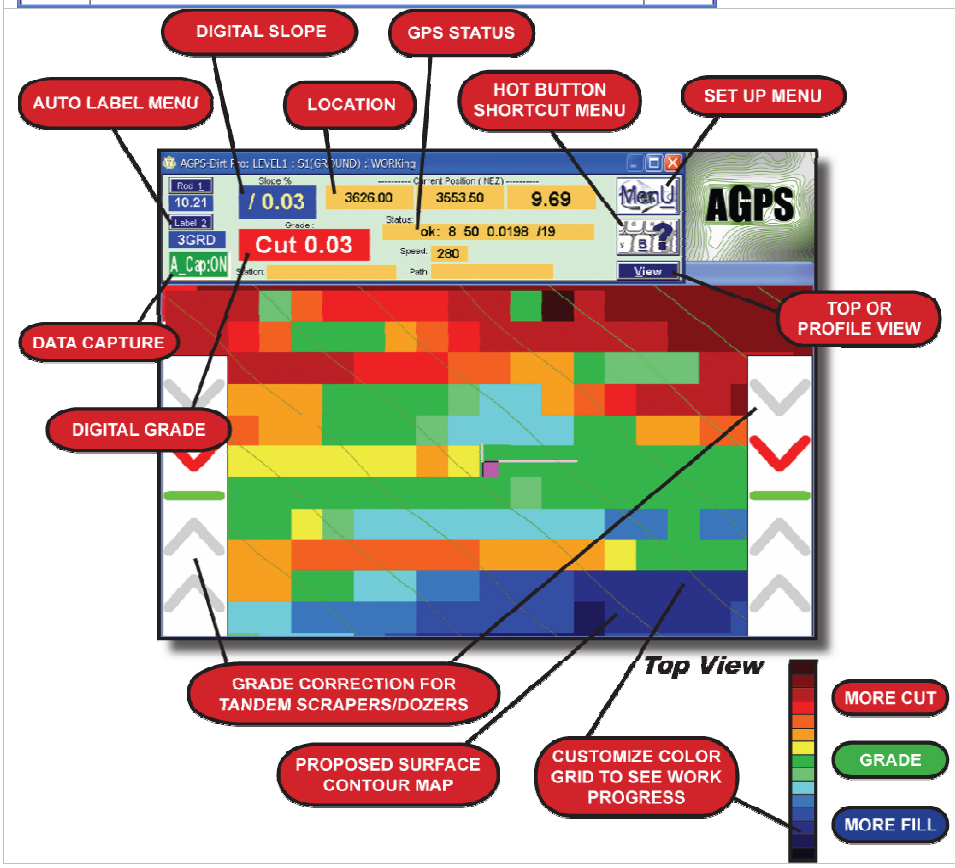

Field Data File Load
From the file "C:\AMW\DATA\TEST.FBG",
2283 Points were loaded.
2283 Points were unique.
957.378 Is the MAXimum Elevation.
950.311 Is the MINimum Elevation.
0 Had less than the allowed Elevation.
0 Triangles were read directly,
0 of these were bad.
OK

After points are loaded and stored, you are given the details about the points. Click OK



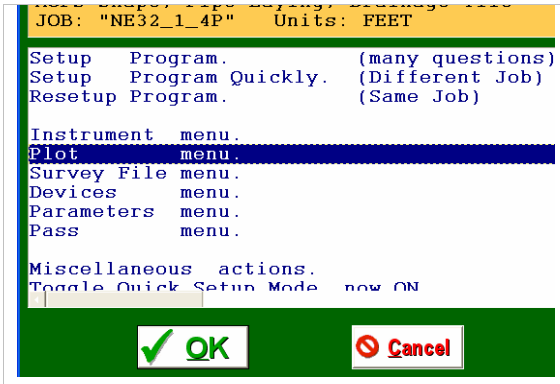
You are taken to the <u>working screen</u> and the program is ready.

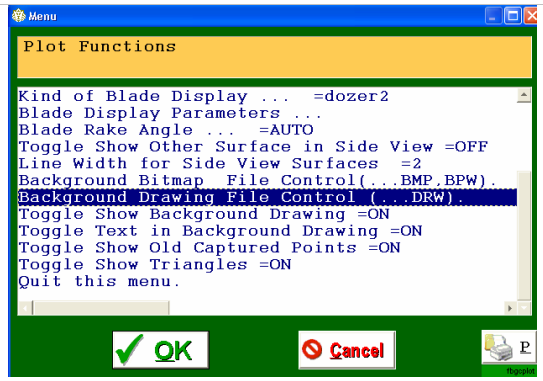
Note: The background color of the slope box will show RED if you are committed to something other than the .fbg (process described later) and BLUE for .fbg use.



Working screen explained:

These notes show a top view with a color grid (and contour background).
Color grids are changed and “As-built” data is collected with A_Cap ON.

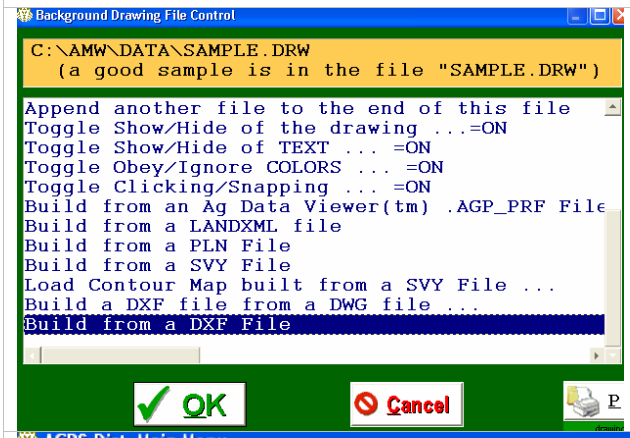


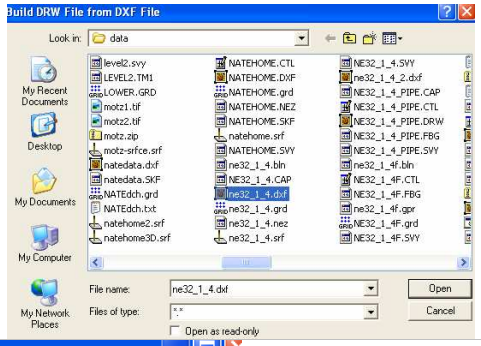

Menu
Plot Functions
Kind of Blade Display ... =dozer2
Blade Display Parameters ...
Blade Rake Angle ... =AUTO
Toggle Show Other Surface in Side View =OFF
Line Width for Side View Surfaces =2
Background Bitmap File Control(...BMP,BPW).
Background Drawing File Control (...DRW).
Toggle Show Background Drawing =ON
Toggle Text in Background Drawing =ON
Toggle Show Old Captured Points =ON
Toggle Show Triangles =ON
Quit this menu.
OK
Cancel

Adding background drawing:

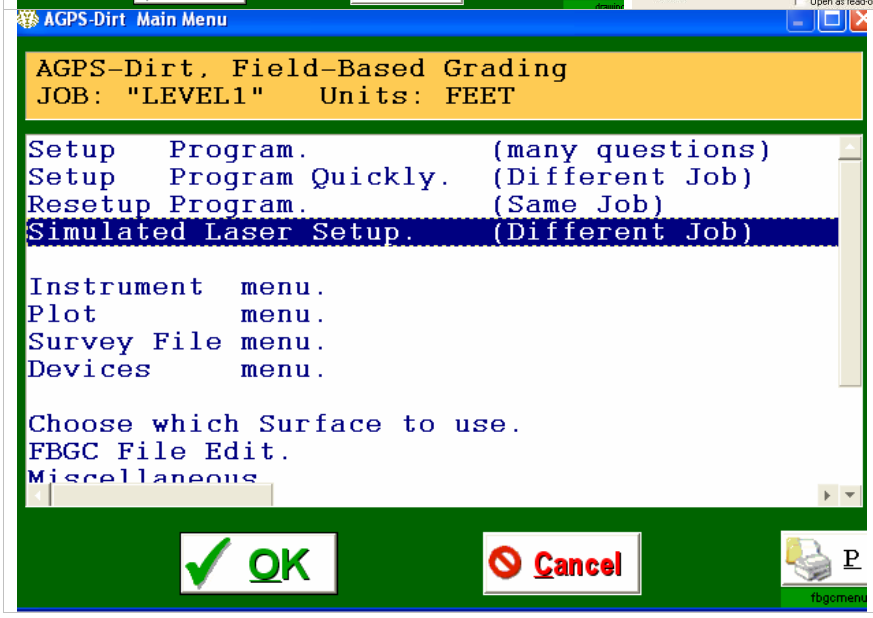
Assuming you have already created a background drawing .dxf somewhere, it needs to be loaded as a .drw

Press MenU select Plot Menu Background Drawing File Control (…DRW)


Background Drawing File Control
C:\AMW\DATA\SAMPLE.DRW
(a good sample is in the file "SAMPLE.DRW")
Append another file to the end of this file
Toggle Show/Hide of the drawing ...=ON
Toggle Show/Hide of TEXT ... =ON
Toggle Obey/Ignore COLORS ... =ON
Toggle Clicking/Snapping ... =ON
Build from an Ag Data Viewer(tm) .AGP_PRF File
Build from a LANDXML file
Build from a PLN File
Build from a SVY File
Load Contour Map built from a SVY File ...
Build a DXF file from a DWG file ...
Build from a DXF File
OK
Cancel



Select:
Build from a DXF File
(bottom option)
Select your dxf file from the list.
After the black screen processes, the DRW menu returns then select:
Quit. No (further) changes.

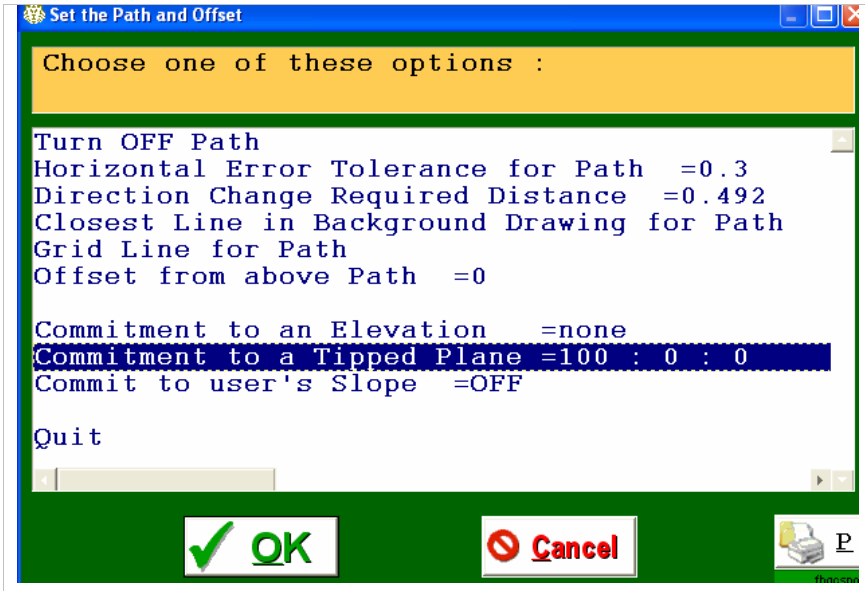


Note: On the working screen, the background color of the slope box will show RED if you are committed to something other than the .fbg and BLUE for .fbg use.

Building planes with no FBG:

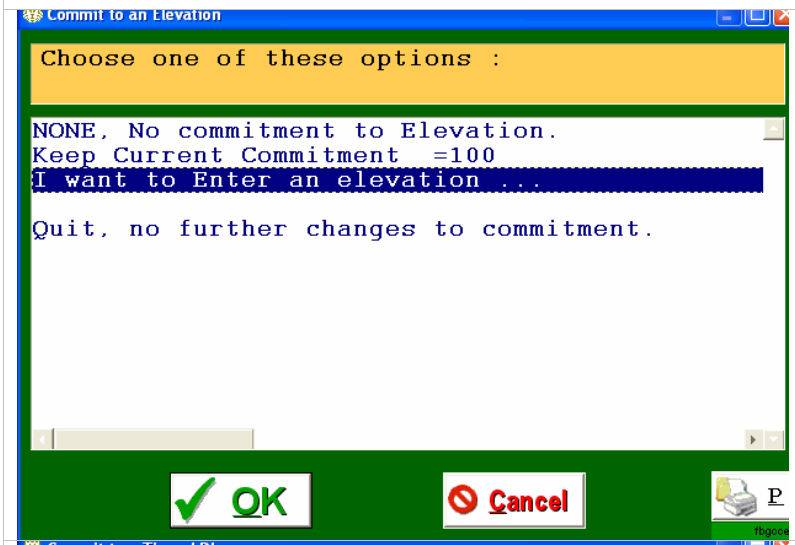
One technique is to use “Simulated Laser Setup” on the Main Menu.

This will ask you to stop at 2 points and read (this gives direction of the plane) and enter the desired slopes.

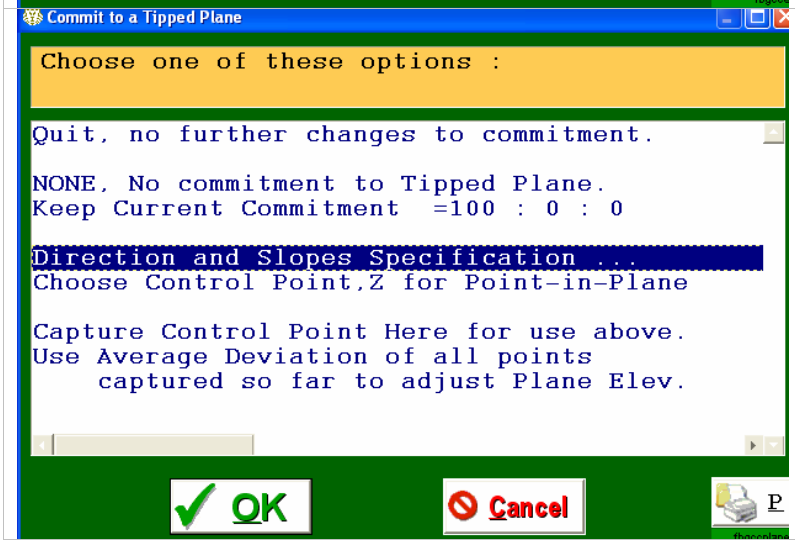

Set the Path and Offset
Choose one of these options :
Turn OFF Path
Horizontal Error Tolerance for Path =0.3
Direction Change Required Distance =0.492
Closest Line in Background Drawing for Path
Grid Line for Path
Offset from above Path =0
Commitment to an Elevation =none
Commitment to a Tipped Plane =100 : 0 : 0
Commit to user's Slope =OFF
Quit
OK
Cancel
P

The "Path" menu also sets planes: Press "P" on the keyboard or click the Buttons Menu and pick "P: Path Menu"

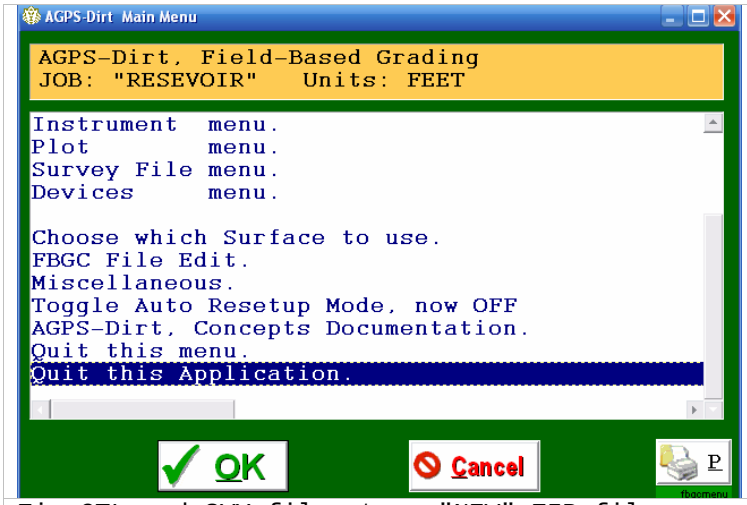
You can commit to an elevation (0% slope)
Or tipped Plane (this does the same thing as Simulated Laser Setup)
*Be sure these options are "none" or "OFF" if using an FBG.



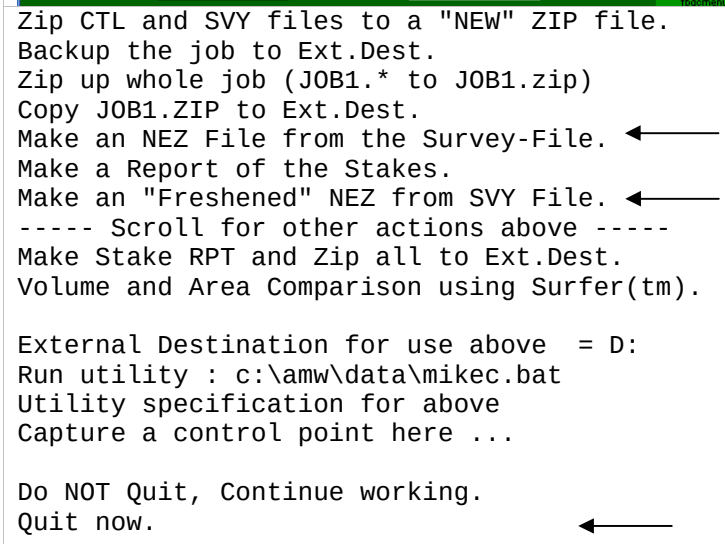
Example of "Commitment to Elevation" submenu


Commit to a Tipped Plane
Choose one of these options :
Quit, no further changes to commitment.
NONE, No commitment to Tipped Plane.
Keep Current Commitment =100 : 0 : 0
Direction and Slopes Specification ...
Choose Control Point,Z for Point-in-Plane
Capture Control Point Here for use above.
Use Average Deviation of all points
captured so far to adjust Plane Elev.
OK
Cancel
P

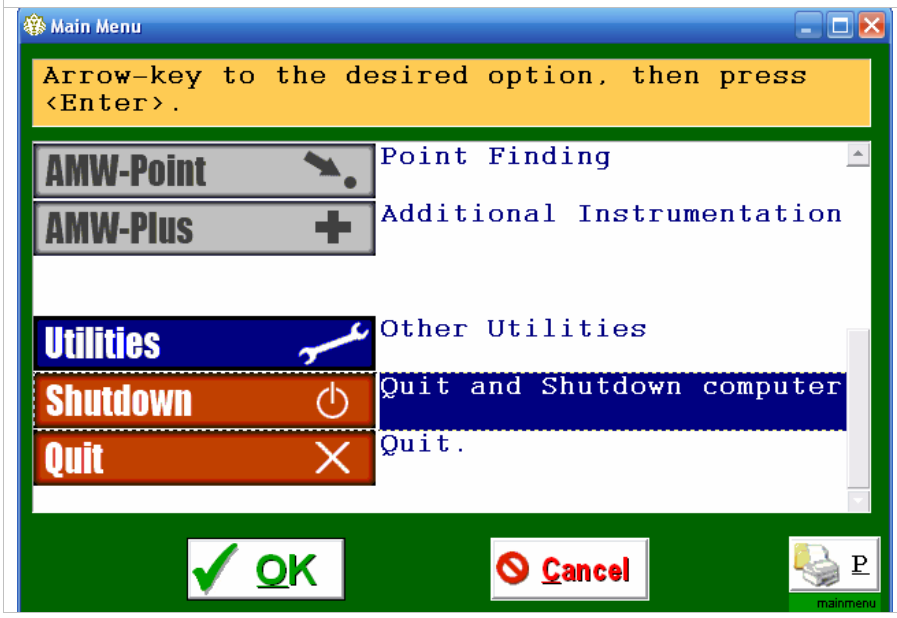
Example of "Commitment to a tipped plane" submenu



Quitting the program:
Press Q for Quit.
If you do not have a keyboard touch Menu then "Quit this Application."


Zip CTL and SVY files to a "NEW" ZIP file.
Backup the job to Ext.Dest.
Zip up whole job (JOB1.* to JOB1.zip)
Copy JOB1.ZIP to Ext.Dest.
Make an NEZ File from the Survey-File.
Make a Report of the Stakes.
Make an "Freshened" NEZ from SVY File.
----- Scroll for other actions above -----
Make Stake RPT and Zip all to Ext.Dest.
Volume and Area Comparison using Surfer(tm).
External Destination for use above = D:
Run utility : c:\amw\data\mikec.bat
Utility specification for above
Capture a control point here ...
Do NOT Quit, Continue working.
Quit now.

Next you receive a scrollable menu with data preparation options before quitting, or you can "Quit now".
"Make an NEZ file" if you want a text file of the collected data.
"Make 'freshened' NEZ" if you want a text file with only the newest of points.



When you select "Quit Now" you will be taken to the Main Menu. If you are done with everything you can "Quit and Shutdown computer"
To work with another application scroll up to select it.
Select Quit for the desktop.

Color Grid Key

Default			Alternate Groups: Flat_land_level	Indicate
99 > 2.01		rgb(64,0,0)	99 > 0.751	99 > 2.01
2.00 > 1.01		rgb(128,0,0)	0.75 > 0.501	2.00 > 1.01
1.00 > 0.501		rgb(192,0,0)	0.50 > 0.331	1.00 > 0.501
0.50 > 0.351		rgb(255,0,0)	0.33 > 0.201	0.50 > 0.401
0.35 > 0.201		rgb(255,96,0)	0.20 > 0.101	0.40 > 0.301
0.20 > 0.101		rgb(255,160,0)	0.10 > 0.051	0.30 > 0.201
0.10 > 0.051		rgb(255,255,0)	0.05 > 0.031	0.20 > 0.101
0.05 > -0.05		rgb(0,192,0)	0.03 > -0.03	0.10 > -0.10
-0.051 > -0.10		rgb(0,255,128)	-0.031 > -0.05	-0.101 > -0.20
-0.101 > -0.20		rgb(0,255,255)	-0.051 > -0.10	-0.201 > -0.30
-0.201 > -0.35		rgb(0,128,255)	-0.101 > -0.20	-0.301 > -0.40
-0.351 > -0.50		rgb(0,0,255)	-0.201 > -0.33	-0.401 > -0.50
-0.501 > -1.00		rgb(0,0,160)	-0.331 > -0.50	-0.501 > -1.00
-1.01 > -2.00		rgb(0,0,96)	-0.501 > -0.75	-1.01 > -2.00
-2.01 > -99		rgb(0,0,32)	-0.751 > -99	-2.01 > -99

To pick an alternate group: MenU > Plot Menu > Color grid control > Groups of settings > Fetch & use a named group.

Glossary of Terms:

A_Cap	Auto Capture: Automatically captures a data point after user set interval (typically 10 feet) has been traveled. This distance uses both horizontal and vertical measurement. Toggled ON/OFF by keyboard spacebar. AGPS-Dirt only: A_Cap also updates the color grid.
BLADE	In the program the term BLADE refers to the automatic control of the blade. The control can be toggled by keyboard 0. There are other places in the program that blade used in a sentence will have different context. (Not available in AGPS-Topo.)
Control point (.ctl file)	Sometimes called a benchmark, this point is a known world feature in which coordinates are also known. Control points are important to make your coordinates match those used earlier. *See also: Local Point, State Plane, UTM*
Device	Other forms: Device Menu, External Device, Control Device, etc. The Device refers to interface device that operates the automatic blade control. In some cases this could be a laser input and output. (Not available in AGPS-Topo.)
Instrument	Other forms: Instrument Menu, Measuring Instrument, Read Instrument, etc. The instrument is the positional equipment. Although typically a GPS, there are many other types, and combinations of multiple instruments.
Local Point	A NEZ coordinate system that uses "fake" coordinates, meaning they are not consistent with State Plane or UTM. An example of this is program default "ptafake 5000 2000 100". *See also: State Plane, UTM, NEZ*
NEZ	Abbreviation for Northing(N) Easting(E) Elevation (Z). Coordinates are always in NEZ. NEZ coordinates are in Feet (or meters if selected) rather than Latitude Longitude and Altitude.
.nez file	A file that uses the following columns: "Name Northing(N) Easting(E) Elevation(Z) Description". (Description is optional)
Path	The line (curved or straight) you wish to follow. You can set a path by touching the path you wish to follow on the Plot. *See also: Plot*
Plot	Other forms: Plot Menu, Plot Window, etc. The Plot is the lower screen that the field is graphically drawn in. Any options to adjust a feature drawn here are found in the Plot Menu.

Quick setup mode — A toggled option to automatically start the application (the one the option is toggled on) instead of going to the Main menu to select an application. (Available in AGPS-Pipe, AGPS-Ditch, and AGPS-Shape) *For AGPS-Dirt, see: Resetup mode*

Resetup mode — A toggled option to automatically start AGPS-Dirt and Resetup Program (same job), instead of going to the Main menu to select an application. *For AGPS-Pipe, AGPS-Ditch, and AGPS-Shape, see: Quick setup mode*

Rod (length) — The distance from the reading point (on the GPS antenna) to the blade or ground.

State Plane — A NEZ coordinate system with zones designed for a particular US State. Every State has one or more zones. *See also: Local Point, UTM, NEZ*

Station — Explains the current distance from the start of the selected Path. This station number format is 12+34.567. The equivalent in feet (or meters) would be 1234.567. *See also: Path.*

Status (GPS) — Shown on the working screen in every program to describe GPS status and other related messages. Shows something like "*ok: 9 3 1.1 /53"* Where 9=satellites 3=datatype 1.1=precision and /53=read counter.

Use the table below to evaluate the data type and precision meaning for your GPS.

	RTK Fixed	RTK Float	No RTK base	Precision
GGA (Generic/*Ashtech*™)	4 or *3*	5 or *2*	1	HDOP
John Deere™	4	3=extend 5=flt.	1	HDOP
Sokkia™/NovAtel™/Beeline™	50	49/48/34/17	16	Alt. Std. Deviation
Topcon™ (Javad™ GGA)	4	5	1	HDOP
Trimble™ (GGK)	3	2	1	PDOP

Survey File (.svy) — This file will contain all data points captured. Also, "Location Instrument" setup information and other relevant information are logged to this file. Points from this file will be displayed on your plot window as dots. The Survey File Menu includes options to modify this file.

UTM — A NEZ coordinate system with zones designed on Longitude lines. The program can automatically detect your UTM zone. *See also: Local Point, State Plane, NEZ*

AGPS-Dirt specific:

C/F : — A message that shows in the top left corner of the Plot. This tells your current Cut/Fill offset. The Cut/Fill offset can be set by touching the Lightbar in the Plot, by pressing the arrow or PgUp/PgDn key, or by pressing keyboard F and setting one in the menu. *See also: Plot*

Simulated Laser — An option in the Main Menu that allows you to drive to 2 points, and created a tipped plane similar to using a laser. Setting this will ignore the .fbg plan. *See also: Tipped Plane*

Surface (.fb? file) — A file that shows a proposed or existing ground. This file uses NEZ format points, and can be easily built from a "DXF" file exported from some "CAD" program. After the points are loaded a TIN is created automatically. *See also: NEZ, TIN*

TIN — Triangulated Irregular Network. A TIN is a file of points that has been connected with triangles. The result is an elevation anywhere between the points because of the sloped triangles.

Tipped Plane — An option in the Path menu that allows you to set a simulated dual slope laser. You will need to tell the program direction (North and east or provide 2 control points) and slope (forward and left). Setting this will ignore the .fbg plan. *See also: Simulated Laser, Control Point.*